Large Scale Networking (LSN) Group Mission, Coordination , Accomplishments

PITAC Review of NGI

January 13, 2000

David Nelson, Co-Chair LSN (NASA)

LSN Working Group

- Reports to CIC R&D Subcommittee
- Responsible for NGI, networking aspects of IT R&D, base LSN research
- Monthly meetings, workshops, conference calls, e-mail, etc.
- *Plans* program goals and objectives, agency responsibilities, major milestones, budgets
- *Coordinates* program execution, links to stakeholders
- *Reviews* progress, proposes adjustments

LSN Mission

- LSN coordinates Federal activities and R&D efforts to maintain and extend U.S. technological leadership in high performance networking through research that advances leading edge networking technologies, services, and performance.

- LSN plans, coordinates, and reviews the NGI as part of its overall mission

Source: LSN Terms of Reference

NGI Goals

- 1. Advance research, development and experimentation in the next generation of networking technologies

- 2. Develop NGI testbeds to connect universities and Federal research institutions at rates that are sufficient to demonstrate new technologies and support future research

- 3. Demonstrate revolutionary applications that meet important national goals and missions

Source: NGI Implementation Plan, Feb. 1

NGI Accomplishments

- Goal 1: Will be covered in agency presentations
- Goal 2: 100X testbed achieved more than 120 sites; 1000X testbed achieved more than 20 sites
- Goal 3: Approximately 80 applications demonstrated with more coming
- However: slow start in 1998 because of Congressional budget cuts slowed accomplishments. Loss of DOE participation in NGI is regrettable.

NGI Accomplishments

- Overarching:
  - Campus networks are now the bottleneck - previously they were national networks and applications
  - Research is hard - e.g. QoS still not in good shape despite NGI and other efforts

NGI Budget Profiles (Dollars in Millions)

Agency	FY 1998		FY 1999		FY 2000	
	Requested	Actual	Requested	Actual	Requested	Estimate
ARPA	$40	$42	$40	$45	$40	$36
F	10	23	25	25	25	25
DE	35	0	25	15	15	0
ASA	10	10	10	10	10	15
H/NLM	0	5	5	5	8	5
ST	5	5	5	5	5	5
TAL	$100	$85	$110	$105	$103	$86

LSN Teams

- *Joint Engineering Team* (JET): Coordinate engineering, architecture and interconnects of NGI testbeds across agencies. Coordinate performance measures of NGI networks and end-to-end applications.

- *High Performance Network Applications Team* (HPNAT): Coordinate NGI applications programs across agencies.

- *Networking Research Team* (NRT): Coordinate networking research across agencies

- *Internet Security Team* (IST): Coordinate NGI security pilots across agencies.

- Teams composed of "hands-on" program managers: compare progress; exchange reviewers; hold workshops; conduct outreach